The open-loop servo system is

a. An error-sensitive system

b. Always in the form of a mechanically closed path

c. Not sensitive to errors

d. A system with feedback from the output

The closed-loop servo system is

a. An error sensitive system

b. Always in the form of a mechanically closed path

c. A system with no feedback circuit

d. Not sensitive to errors

The hydraulic servo system is used primarily to control

a. Large loads requiring instant response

b. Light loads

c. Loads that require extreme accuracy of motion

d. Large loads requiring resonable accuracy

The simplest form of a practical servomechanism is the

a. Ward-Leonard system

b. Amplidyne system

c. Potentiometer system

d. Synchro system

An A-C servo motor is used in the

a. Amplidyne system

b. Ward-Leonard system

c. Potentiometer system

d. Synchro system

ELECTRONICS

The chief characteristic of the Ward-Leonard system is

a. Accuracy

b. Simplicity

c. Compactness

d. High-power output

An increase in the diameter of a cavity generally

a. Increases the resonant frequency of the cavity

b. Reduces the feedback effect

[✓ c.] Decreases the resonant frequency of the cavity

d. Does not change the resonant frequency of the cavity

Plugs and paddles are used in a cavity resonator to

a. Vary the Q of the cavity

b. Feed energy into or out of the H-lines

c. Tune the cavity

d. Feed energy into or out of the E-lines

If a plug is inserted farther into a cavity the result is that

a. More energy is fed into the cavity

b. The resonant frequency of the cavity is increased

c. The Q of the cavity is increased

d. The resonant frequency of the cavity is decreased

The purpose of gold plating the interior surface of a cavity is to

[✓ a.] Increase the Q of the cavity

b. Increase the frequency range over which the cavity may be tuned

c. Prevent skin effect

d. Change the mode of operation

The current flow for a cavity resonator is

a. On the outer surface of the cavity

b. Through the complete thickness of the walls of the cavity

[✓ c.] Through the dielectric of the cavity

d. On the inner surface of the cavity walls

When a cavity resonator is used as an absorption type wavemeter, resonance is indicated when the meter

a. Reads a maximum value

b. Fluctuates

c. Reads a minimum value

d. Reads a value half-way between maximum and minimum

The cavity resonator when properly tuned is equivalent to

a. An R-C circuit

b. A series resonant circuit

[✓ c.] A parallel resonant circuit

B. An R-L circuit

If two shorted quarter-wave stubs are connected in parallel, the resonant frequency will

[✓ a.] Increase

B. Decrease

c. Remain the same

d. Be unstable

If two quarter-wave shorted stubs are connected in parallel, the total capacitance, compared to that of one stub will

a. Be one-half

b. Reamin the same

c. Be four times as great

[✓ d.] Be doubled

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The current at the open end of a quarter-wave shorted stub will be

[✓ a.] Minimum

b. The maximum current multiplied by .707

c. Maximum

d. The supply voltage multiplied by the impedance at the shorted end

The E-lines of a cavity resonator are

a. Parallel to the H-lines

b. Rotating in a clockwise direction

[✓ c.] Perpendicular to the H-lines

d. Rotating in a counter-clockwise direction

A loop is used in a cavity resonator to

a. Increase the Q of the cavity

b. Couple energy to or from the E-lines

c. Decrease the Q of the cavity

[✓ d.] Couple energy to or from the H-lines

The modulator unit of a radar set

a. Is used to transmit a short pulse to the high frequency oscillator

[✓ b.] Transmits a long powerful pulse to the high frequency power output stage

c. Modulates the radar Tx when the pilot wishes to talk to friendly aircraft

d. Is used to turn on the Tx when the pilot depresses the IFF Sw

The manual tuning of the receiver should be adjusted for

a. Brightest scope indication

b. Local oscillator detuned from the Tx frequency by the amount of the IF frequency

[✓ c.] Strongest signal in the video amplifiers

d. All of the above

To increase the range of a PPI scope we would have to

[✓ a.] Increase the sweep time

b. Increase the speed of antenna rotation

c. Decrease the pulse length

d. Decrease the speed of antenna rotation

A transmission line which terminates in a short

a. Will not transfer power

b. Is a very successful power transfer device

c. Is always a quarter-wavelength long

d. Is always a half-wavelength long

An open-ended transmission line

[✓ a.] Is a good impedance matching transformer

b. Has a minimum amount of reflection

c. Is always a quarter-wavelength long

d. Is always a half-wavelength long

The voltage at the unshorted end of a quarter-wave shorted stub is

a. More than the supply voltage

[✓ b.] Maximum

c. The supply voltage multiplied by .707

d. Minimum

The reflex klystron frequency is controlled by

a. Varying the magnetic field

b. Varying the positive plate voltage

[✓ c.] Varying the negative plate voltage

d. Varying the grid voltage

The keep-alive voltage is a

a. Low positive voltage on the AVC line of the receiver

[✓ b.] Voltage to aid in the ionization of a TR switch

c. High negative voltage switched fro m Tx to Rx by the operator

d. Positive voltage on the plate of the Tx oscillator during receptive periods

The purpose of the AFC circuit is to

a. Provide a means for automatic fire control

b. Amplify frequency changes

c. Automatically control the amplification of the IF circuits

[✓ d.] Keep the local oscillator detuned from the Tx by a fixed amount

The beacon signal on a scope will

a. Indicate the range of the beacon

b. Indicate the beacon Tx to be much closer than it really is

c. Indicate the beacon at correct range but to one side of actual location

d. Indicate the beacon to be at a much longer range than actual

Manual tuning of a radar set is accomplished by tuning

a. The IF amplifiers
b. The magnetron
[✓ c. The klystron]
d. The RF amplifiers

The mixer circuit of a radar receiver usually consists of

a. A klystron
b. A pentagrid converter tube
[✓ c. A crystal]
d. A diode tube